

USSR

UDC: 621.396.6.017.71(088.8)

MOCHALOV, V. D., BELYAYEV, V. M.

"A Device for Delivering Forced Heating Power"

USSR Author's Certificate No 267233, filed 13 Nov 68, published 7 Jul 70
(from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1V231 P)

Translation: The proposed device for delivering forced heating power contains a capacitor, a power supply and a control device. To increase the operating speed of the device, the capacitor is connected through the normally closed contacts of a relay in the control device in parallel with the power supply, and through normally open contacts in series with the power supply.

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AA0043293

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

1/70

239680 CONVERTER OF VOLTAGE INTO A TIME INTERVAL.

The circuit has been improved by providing a high input impedance. The input voltage from the generator (5) is applied to a coil (3). The voltage is memorised by the magnetic core. The time taken to demagnetise the core through a valve (2) under a stabilized voltage (6) gives a time interval proportional to the hysteresis loop of the core and the input voltage. After the core has been demagnetised an output signal appears on the resistor (4) marking the end of time interval.

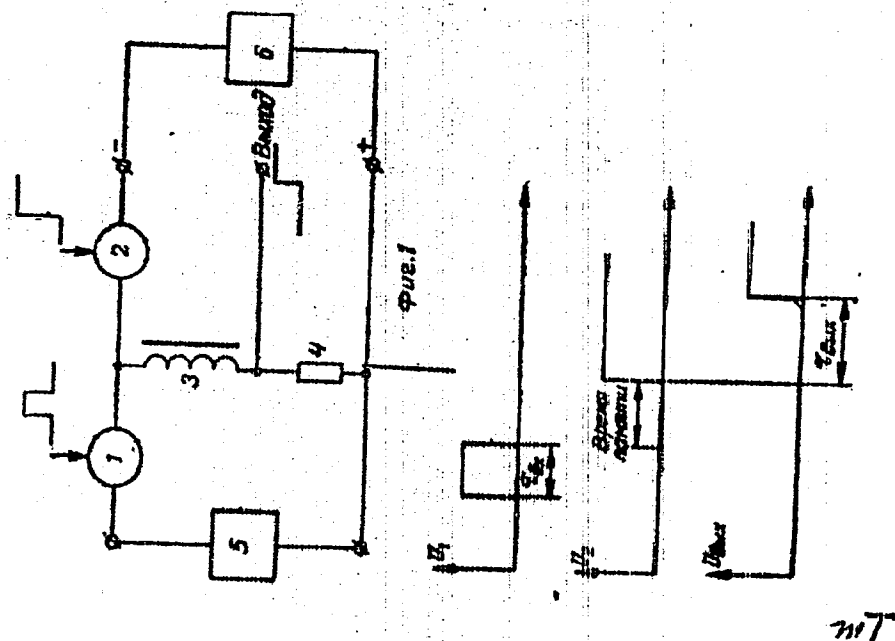
26.2.68 as 1220802/18-24. V.D. MOCHALOV (1.8.69) Bul 11/18.3.69. Class 42m⁵. Int.Cl.G 06 J.

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USSR

UDC 622.248.67

BEZUMOV, V. V., MOCHALOV, V. F., and UTEBAYEV, B. K.

"Cutting a New Shaft in Well SG-2 -- Biikzhal at a Depth of 4985 Meters"

Moscow, Bureniye, No 9, 1972, pp 9-12

Abstract: A detailed description is given of the drilling of a new shaft at a depth of 4895 meters in well SG-2 Biikzhal, with the aim of effecting the greatest possible avoidance, by the new shaft, of the zone of a complication present in the interval between 5060 and 5553 meters. Successful cutting of the new shaft was facilitated by the employment of ball-pivot turbine deflector and a single-cutter bit. 2 figures. 1 table.

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USSR

UDC 632 95

MOLOCHNIKOV, V. V., MOCHALOV, V. I., and MORGUNOVA, A. P.

"Procedure for Determining Some Chlorine-Containing Pesticides in Milk and Dairy Products by the Gas Chromatography Method"

Tr. 2-go Vses. soveshch. po issled. ostatkov pestitsidov i profilakt. zagryazneniya ini produktov pitaniya, kormov i vnesh sredy (Transactions of the Second All-Union Conference on the Study of Pesticide Residues and Prevention of Their Contamination of Food Products, Fodder and the External Environment), Tallinn, 1971. pp 81-84 (from RZh-Khimiya, No 13, 10 Jul 72, Abstract No 13N441 by T. A. Belyayeva)

Translation: Preparations are extracted from the investigated sample with organic solvents (CHCl_3 -acetone) and the extract undergoes purification on a column with silica gel ASK [expansion unknown] and analysis on a gas chromatograph with an electron capture detector. The columns used have 3% SE-30 on chromosorb W (80-100 mesh) or 2% QF-1 on chromosorb W. Solid carriers are silanized. Column temperature 190° (QF-1) or 200° (SE-30), injection temperature respectively 200° or 210° , detector temperature 180 - 185° or 190 - 195° . Flow rate of carrier gas (N_2) 30 ml/min (QF-1) or 100 ml/min (SE-30).
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USSR

UDC 543.8:632.93

Candidates of Biological Sciences MOLOCHNIKOV, V. V., and ZHAVORONKOV, N. I.,
Candidate of Technological Sciences POLYAKOVA, V. N., and MOCHALOV, V. I.,
All-Union Institute of Experimental Veterinary Sciences

"Investigation of Solvents' Distillation Methods for the Purpose of Determining Certain Pesticides With the Use of Gas Chromatography"

Moscow, Doklady Vsesoyuznoy Ordena Lenina Akademii Sel'skokhozyaystvennykh Nauk imeni V. I. Lenin, No 7, July 1971, pp 32-33

Abstract: The ever increasing use of chemical pesticides in agriculture necessitates the development of analytical methods which make it possible to determine the residue content of these chemicals in food products, water, soil, stock feed, and so on in quantities as small as 0.001 to 1.000 micrograms per kilogram. Among such methods is gas chromatography. For this purpose processes which make it possible to distil and evaporate solvents containing the pesticides to lowest concentration volumes are required.

The object of the investigations described in the article was to determine the efficacy of different distillation methods when applied for the

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USSR

MOLOCHNIKOV, V. V., et al., Doklady Vsesoyuznoy Ordena Lenina Akademii Sel'skokhozyaystvennykh Nauk imeni V. I. Lenin, No 7, July 1971, pp 32-33

preparation of four of the most widely used pesticides -- 4,4'-dichlorodiphenyltrichloroethane (DDT); 4,4'-dichlorodiphenyltrichloroethylene (DDE); trichlorometaphos-3 (TKhM-3); the gamma-isomer of hexachlorocyclohexane (lindane) for gas chromatography. One milliliter of a standard mixture containing 10 micrograms of each of the pesticides was dissolved in 100 milliliters of a mixture of benzene and hexane in a ratio of 3:8. Distillation was carried out in a 500 milliliter round-bottom retort (retort 1); 500 milliliter flat-bottom retort (retort 2); 120 milliliter round-bottom retort (retort 3); Petri dish; and 250 milliliter round-bottom retort on an IR-1 evaporator.

The contents of retorts 1, 2, and 3 were distilled as follows: on a boiling water bath for 12 minutes; on a water bath at 80 degrees Centigrade (C) for 40-60 minutes; on a water bath at 45-50 degrees C in an air current for 20-40 minutes. The contents of retort 3 were also distilled on a water bath

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MOLOCHNIKOV, V. V., et al., Doklady Vsesoyuznoy Ordena Lenina Akademii
Sel'skokhozyaystvennykh Nauk imeni V. I. Lenin, No 7, July 1971, pp 32-33

at 45-50 degrees under vacuum for 25-30 minutes; of Petri dish in an air current at room temperature for 45-50 minutes; of the 250 milliliter round-bottom retort on a water bath of an IR-1 evaporator at a temperature of 45-50 degrees C. Distillation was continued until volumes of 0.2-0.4 milliliters were obtained. The residue was washed with 10 milliliters of hexane and analyzed. Optimal results were obtained in distillation under vacuum at 45-50 degrees C. Only about 0.5 percent of the lindane was lost, while the other pesticides were determined without loss.

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USSR

UDC 632.95

MOLOCHNIKOV, V. V., and MOCHALOV, V. I.

"Extraction of Pesticides from Milk and Purification of Extracts for Analysis"

V sb. Probl. analit. khimii (Collection of Works: Problems of Analytical Chemistry), Vol 2, Moscow, Nauka, 1972, pp 81-84 (from Referativnyy Zhurnal -- Khimiya, Svodnyy Tom, No 23(II), 1972, Abstract No 23N411 by T. A. Belyayeva)

Translation: In order to determine the degree of extraction of pesticides, the first extraction is made with an acetone solution of n-hexane or petroleum ether (b.p. 40-70°C) with ether in the ratio 1:1, followed by the extract purification with MeCN or dimethylflouramide. To 50 ml. of milk 10 ml of 5% solution of (COOK)₂ is added, followed by mixing, addition of 100 ml. of acetone, shaking for 2 min, addition of 10 ml. of saturated NaCl solution and 100 ml of the mixture of n-hexane and ether (1:1), shaking for 3-4 min, decanting the upper layer in 10-15 min. Thereafter the extraction of 50 ml. of the n-hexane and ether mixture is repeated. The obtained extracts are combined and evaporated at 45-50°C. This method makes it possible to extract 91.5% DDT, 88.7% DDE, and 96.4% DDD, together with 92% of milk fat. The latter is removed from hexane extracts by a polar solvent, water, and nonpolar solvent with the use of DMFA. When DMFA is used, about 7.6% of the milk fat is still present in the hexane extract, and only 6.4%, when MeCN is used. The losses of DDT, DDE, and DDD amount to 0.3, 9.3, and 4.8%, respectively, during the hexane extract purification.

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USSR

UDC 536.46:533.6

YEZHOVSKIY, G. K., MOCHALOVA, A. S., OZEROV, Ye. S., YURINOV, A. A.

"Ignition and Combustion of Magnesium Particles"

V sb. Goreniye i vzryv (Combustion and Explosion -- Collection of Works), Moscow, "Nauka", 1972, pp 234-240 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3B939)

Translation: The results and methods of an experimental study of the characteristics of ignition and combustion of single suspended and flying particles of magnesium are presented. The kinetic constants of the heterogeneous oxidation reaction of magnesium in an aqueous vapor and in oxygen are calculated on the basis of the experimental data. The limiting combustion temperature and the induction time of a magnesium particle is calculated as a function of the various parameters of the medium with the aid of the constants obtained. A semiempirical formula is given for the constant of the rate of combustion of the magnesium particle as a function of the concentration of oxidizer in the medium and the pressure of the medium. 5 ref. Authors' abstract.

SPRS 59066
6.73

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MOCHALOVA, M.A.

14-8. STUDY OF THE FORMATION OF THE LEAD SULFIDE FILM STRUCTURE ON SUBSTRATES OF ROCK SALT SUBJECTED TO BOMBARDMENT BY He^+ , Ar^+ , B^+ IONS

[Article by Ye. I. Zorin, R. V. Kudryavtseva, M. A. Mochalova, P. V. Pavlov, S. A. Semilov, Gor'kiy, Gor'kiy Research Physicochemical Institute under the USSR Academy of Sciences, 111 St. Petersburg, 19-17 June, 1972, p. 49]

There are various opinions regarding the effect of substrate defects on the nature of the orientation and the structure of continuous films. Therefore, discovering the growth laws of the films on the substrate with automatically created defects is of scientific and practical interest.

In this paper the methods of electron diffraction and electron microscopy were used to study the laws of the formation of thin films of lead sulfide obtained by condensation in a vacuum on the order of $5 \cdot 10^{-6}$ torr on rock salt crystals irradiated in advance by He^+ , Ar^+ , B^+ ions in equal doses (from 10^{16} to 10^{18} ions/cm²).

It was established that:

- 1) Irradiation of the NaCl substrate with He^+ , Ar^+ and B^+ ions leads to the fact that the film formation proceeds much more rapidly than on the control substrate; that is, the formation process is shifted in the direction of smaller thicknesses.
- 2) The magnitude of the critical thicknesses for which one growth stage or another takes place is less the greater the mass of the ions and the irradiation dose.
- 3) When determining the irradiation dose, depending on the type of ion, the optimal growth of the film is determined; irradiation by B^+ ions with doses on the order of 10^{15} ions/cm² leads to the formation of polycrystalline films.
- 4) In the films grown on irradiated substrates, effects of the crystal structure occur which are the same as on the control substrates (dislocations, dislocation grids, growth configurations), but with higher concentration.

USSR

UDC 620.193.5

MOVCHAN, B. A., KUZ'MIN, G. S., MOCHALOVA, T. E., KARATYSH, V. V., TIKHONOVSKIY, A. L., and YAGUPOL'SKAYA, L. N., Academy of Sciences Ukrainian SSR, Institute of Electric Welding imeni Ye. O. Paton, Perm' Polytechnical Institute

"Corrosion of Nickel of Varying Purity in Gaseous Hydrogen Fluoride"

Moscow, Zashchita Metallov, Vol 7, No 1, Jan-Feb 71, pp 32-34

Abstract: A study was made of the behavior in gaseous hydrogen fluoride of commercially pure nickel NP-2A and ultrapure nickel refined by the electron-beam method in vacuum. A specially designed apparatus was used for the experiments, consisting of two communicating nickel ovens connected with a chemical absorber. Experiments lasting up to 120 hours were carried out at 550° and an HF pressure of 20 atm. The results indicate that the corrosion resistance of the ultrapure nickel in gaseous HF is five times higher than that of nickel NP-2A. The electron-beam re-

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USSR

MOVCHAN, B. A., et al., Zashchita Metallov, Vol 7, No 1, Jan-Feb 71, pp 32-34

finer nickel shows no intercrystalline corrosion. Consequently, nickel refined by the electron-beam method is recommended for the manufacture of nickel equipment. The electron-beam refining of nickel is also economically advantageous.

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USSR

UDC 621.791.856.3.019

KUZ'MIN, G. S., KARATYSH, V. V., and MOCHALOVA, T. F.

"Tendency of Nickel to Form Hot Cracks"

Kiev, Avtomaticheskaya Svarka, No 6, Jun 70, pp 71-72

Abstract: The presence of practically insoluble impurities in nickel, such as sulfur, bismuth, lead, phosphorus, and an increase in gas concentration may cause the appearance of cracks when the metal is heated in processing or is welded. Soviet industry now produces five brands of nickel with a purity of from 99.5 to 99.99%. The use of the NP2 and NP2A brands, containing no more than 0.5% impurities, is recommended for use in metal structuring. The purpose of the work described in this article, done at the Perm Polytechnical Institute, is to compare the durability of NP2A nickel and nickel refined by electron-beam remelting. A table of the chemical composition of both of these metals is given. A diagram of the specimens with which the research was made is also shown. The results show that the NP2A has the lower durability.

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USSR

UDC 621.373.531

KOCHENOV, A. D.

"On One of the Methods for the Approximate Calculation of the Speed of Response of Circuits With Tunnel Diodes"

V sb. Tunnel'n. diody v vychisl. i izmerit. tekhn. (Tunnel Diodes in Computer and Measurement Technology — collection of works), 1972, Riga, "Zinatne", pp 327-336 (from RZh-Radiotekhnika, No 11, Nov 72, Abstract No 11 G135)

Translation: A method is proposed for the approximate calculation of the speed of response of circuits with tunnel diodes. It was obtained by approximating the switching time dependences of tunnel diodes at various values of the overexcitation coefficient and equivalent load resistance. Consideration of the latter is accomplished with the aid of the minimum (critical) coefficient of excitation evoking tunnel diode switching. Simple formulas are obtained which make it possible to calculate the speed of response of circuits with an accuracy of not less than 10 percent. Original article: three bibliographic entries. Resume.

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USSR

UDC: 51:155.001.57:681.3.06

LOSEV, I. R., MOCHENOV, S. V.

"On Using Methods of Minimization of Boolean Functions in the Solution of Various Pattern Recognition Problems"

V sb. Avtomat. ustroystva ucheta i kontrolya (Automatic Devices for Computation and Checking--collection of works), vyp. 6, Izhevsk, 1970, pp 20-31 (from RZh-Kibernetika, No 7, Jul 71, Abstract No TV781)

Translation: Several algorithms are proposed for finding distinguishing characteristics in the solution of pattern recognition problems.

It is noted that the algorithms are applicable with practically any alphabet and ensure minimum code description of classes of alphabet with a minimum number of characteristics and simultaneous determination of the structure of the recognition system. The authors demonstrate the effective use of methods of minimizing Boolean functions in determining the necessary resolution of the retina, as well as optimum regions of disposition of S-elements. A characteristic feature of the described algorithms is that the recognition system in any case is constructed as a decoder using truth tables compiled in the learning stage. Bibliography of 17 titles. V. Mikheyev.

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USSR

UDC51:155.001.57:681.3.06

ZLTKIS, V. M., KAZAKOV, V. S., KUCHUGANOV, V. N., LOSEV, I. R., MOCHENOV, S. V.

"Image Input-Output Device for Minsk-1 Computer"

Avtomat. Ustroystva Ucheta I Kontrolya, [Automatic Accounting and Control Devices--Collection of Works], No 6, Izhevsk, 1970, pp 164-174, (Translated from Referativnyy Zhurnal Kibernetika, No 5, 1971, Abstract No. 5V682).

Translation: Problems are studied of creating and operating image input-output devices for small computers. The device is based on the FTA-PM phototelegraph apparatus with slight modifications and practically no modifications to the Minsk-1 computer. The input of an image is performed from a sheet 220 mm in width with unlimited length, and the output in onto electrochemical paper. The resolving capacity of the apparatus is 3-4 lines per mm, the operating speed is 120 lines per minute. Operation is performed at a carrier frequency of 1,900 Hz. Input and output of the image is performed by sectors 64 x 7 mm or 128 x 14 mm in size with resolution into 250 x 31 elements, with brightness quantized to [single-digit number eligible--Er] levels. A block diagram and functional diagram of the device are presented and the operation of the individual units is described. It is noted that this device has been used for successful operation of algorithms for recognition of printed characteristics, algorithms for classification of complex images according to their skeletal outline have been studied, a method of probabilistic coding of halftone images has been tested and experiments have been performed on the separation of con-

USSR

UDC51:155.001.57:681.3.06

ZLA:KIS, V. M., KAZAKOV, V. S., KUCHUGANOV, V. N., LOSEV, I. R., MOCHENOV, S. V.,
Avtomat. Ustroystva Ucheta I Kontrolya, No 6, Izhevsk, 1970, pp 164-174.

tours of images from photographic portraits of people.

USSR

UDC 621.377.622.322.4. 181.48.002. 621.92

MOCHENYAT, L. G.

"Methods and Modes for Grinding Multiple-Aperture Memory Plates"

Elektron. Tekhnika. Nauch. - Tekhn. Sb. Microelektronika [Electronic Technology. Scientific-Technical Collection. Microelectronics], No. 5 (26), 1970, pp 57-59
(Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No. 5, 1971, Abstract No. 5B136 by TR).

Translation: A process of mechanical treatment of ferrite plates for the production of integrated memory elements is studied. Recommendations are given for the use of diamond tools. Technological modes of processing and methods of cutting are presented, as well as three methods of fastening plates to the magnetic stage of the tool and recipes for suspensions.

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Nuclear Physics

USSR

UDC: 621.384.64:539.122

ALEYSHVILI, D. I., GRISHAYEV, I. Ya., MOCHESHNIKOV, N. I., and
TOLSTOY, A. Ye.

"Reduction of Idle Time in the Operation of a Linear Accelerator"

Moscow, Atomnaya Energiya, vol 33, No 1, July 1972, pp 593-594

Abstract: In this paper. it is shown that, by using an accumulator with no essential structural changes, the pulsed electron beam of a linear electron accelerator containing an accumulator transforms to a flow of gamma quanta with an intensity and duration that may vary within broad limits. The experimentation which led to this conclusion was conducted with the accumulator of the Physicotechnical Institute of the Ukrainian Academy of Sciences, using the first five sections of a linear accelerator with an energy of 300 Mev acting as injector. In the accelerator. the electron energy was 70 Mev, the pulse current was 50 ma with a duration of 1.2 μ s, and the injection frequency 1-50 Hz. The accelerator beam was formed by the rotatory focusing system of the accumulator, introduced into the ring. and then captured by the pulse field of the inflector before its accumulation in the magnetic

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USSR

UDC: 621.384.64:539.122

ALEYSHVILI, D. I., et al, Atomnaya energiya, vol. 33, No 1, July 1972, pp 593-594

circuit with the high-frequency system operating. A description of the target is given. The radiation obtained from the target's braking the electron stream was picked up by recording equipment. A diagram of the apparatus is given, along with curves of the lifetime of the accumulated electron beam as a function of the target position and for the intensity of the braked radiation as a function of time. It is found that by increasing the number of accumulated particles to 10^{11} , the photon output can be raised to 10^9 - 10^{10} per cycle.

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MOCHKIN, V.S.

Microelectronics

MICROELECTRONICS

Excerpt from Russian-language book edited by F. V. Lukin,
Mikroelektronika, No 5, 1972, Sovetskoye Radio Publishing House,
Moscow, UDC 621.382.621.396.6-181.5.

JPRS 57333
25 October 1972

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[I - USSR - F]

ABSTRACTS

UDC 621.38.001

Physical Models of Low-Frequency Noises and Instability in the Characteristics of KDP Structures. Mochnik, V.S. and Stepanenko, I.P. In the Collection Mikroelektronika, edited by I.V. Lukin, No 5, p. 6. Sovetskoye Radio Publishing House, 1972.

This article gives a classification and comparative analysis of known physical models of low-frequency noises and instability in the electrical characteristics of KDP structures. The interrelationship of the physical mechanisms that produce noises and instability is emphasized. Several methods are examined for decreasing instability and noises.

The article contains 13 figures and 44 bibliographic references.

UDC 621.383.8-021.370.147.3

Basic Parameters and Equivalent Circuits of Integrated Operational Amplifiers. Aleksenko, A.G. and Shilo, V.M. In the Collection Mikroelektronika, edited by I.V. Lukin, No 5, p. 27. Sovetskoye Radio Publishing House, 1972.

An evaluation is given of the possibility of multipurpose use of integrated circuits of operational amplifiers in microelectronic equipment for processing analog signals. Variations are examined for supplying signals to the operational amplifier, its equivalent circuits and basic parameters.

The article contains 14 figures, 3 tables, and 24 bibliographic references.

1/2 030 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--EXPERIENCE IN THE USE OF PNEUMOGRAPHY IN THE DIAGNOSIS OF DISEASES
OF SUBMANDIBULAR SALIVARY GLANDS, PNEUMOSUBMANDIBULOGRAPHY -0-
AUTHOR--(03)-MOCHULSKIY, A.S., PLINER, M.A., TILINA, O.A.

COUNTRY OF INFO--USSR

SOURCE--STOMATOLOGIYA, 1970, VOL 49, NR 3, PP 66-67

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ORAL DISEASE, SALIVARY GLAND, PNEUMOGRAPHY, RADIOGRAPHY,
DIAGNOSTIC MEDICINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3004/0504

STEP NO--UK/0511/70/049/003/0066/0067

CIRC ACCESSION NO--AP0131127

UNCLASSIFIED

2/2 030

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0131127

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THROUGH A SYSTEM OF TWO BOBROV'S APPARATUS THE AUTHORS INSUFFLATED OXYGEN UNDER THE MUSCLES OF THE SUBMENTAL REGION AND UNDER CONTROL OF THE X RAY SCREEN PREPARED ROENTGENOGRAMS OF SUBMAXILLARY SALIVARY GLAND FROM BOTH SIDES. IN A NUMBER OF CASES TOMOGRAMS WERE RECORDED AND THE INVESTIGATION WAS COMBINED WITH SIALOGRAPHY. ON THE ROENTGENOGRAMS THERE ARE DISTINCTLY SEEN CONTOURS OF THE GLAND, FORM AND ITS LOBAR STRUCTURE AND INTERRELATION WITH THE SURROUNDING TISSUES.

UNCLASSIFIED

1/2 032 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--CLINICAL PICTURE AND PATHOMORPHOLOGY OF CERVICAL VEGETATIVE
GANGLIONITIS IN VIBRATION SICKNESS -U-
AUTHOR-(04)-MODEL, A.A., RAPORPORT, M.B., TIMOFEYEVA, N.T., PASTERNAK,
G.A.
COUNTRY OF INFO--USSR
SOURCE--KLINICHESKAYA MEDITSINA, 1970, NR 3, PP 74-78
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BIOLOGIC VIBRATION EFFECT, GANGLION, RAT, MORPHOLOGY, SPINAL
CORD, SPINAL NERVE, CENTRAL NERVOUS SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/1742

STEP NO--UR/0497/70/000/003/0074/0078

CIRC ACCESSION NO--AP0136983

UNCLASSIFIED

2/2 032

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136983

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AS A RESULT OF OBSERVATION OF 29 PATIENTS SUFFERING FROM VIBRATION SICKNESS, THE CLINICAL SYMPTOMS OF AFFECTION OF THE CERVICAL SYMPATHETIC GANGLION WERE ANALYZED. IN A NUMBER OF CASES THE AFFECTION OF CERVICAL VEGETATIVE FORMATIONS WERE ACCOMPANIED BY DEGENERATIVE AND DYSTROPHIC CHANGES OF THE SPINE. THE AUTHORS CARRIED OUT HISTOLOGICAL INVESTIGATIONS OF CERVICAL VEGETATIVE GANGLIA USING RATS SUBJECTED TO INTERMITTENT OVERALL VIBRATION FOR THREE HOURS DAILY DURING A PERIOD OF THREE MONTHS. MORPHOLOGICAL CHANGES OF PRE AND POST GANGLIONIC FIBERS WERE FOUND, AS WELL AS CHANGES OF NERVE CELLS OF SYMPATHETIC GANGLIA. IT IS BELIEVED THAT IN THE DEVELOPMENTAL MECHANISM OF CERVICAL VEGETATIVE GANGLIONITIS OF VIBRATION ETIOLOGY, AN IMPORTANT ROLE IS PLAYED BY PATHOLOGICAL IMPULSION FROM THE PERIPHERY AS WELL AS BY DISTURBANCES OF THE CENTRAL NERVOUS SYSTEM. IT IS ASSUMED THAT THE CHANGES OF THE SPINE ARE OF SECONDARY NATURE CAUSED BY THE AFFECTION OF THE CERVICAL SYMPATHETIC GANGLION. FACO;OTU"
KIYEVSKIY NAUCHNO-ISSLEDOVATELSKIY INSTITUT GIGIYENY TRUDA I
PROFESSIONAL'NYKH ZABOLEVANIY.

UNCLASSIFIED

USSR

M UDC: 616.839.19-C02-02:613.644

MODEL', A.A., RAPOPORT, M.B., TIMOFEYeva, N.T., and PASTERNAK, G.A., Kiev
Scientific Research Institute of Labor Hygiene and Occupational Diseases

"The Clinical Picture and Pathomorphology of Cervical Autonomic Ganglionitis
in Vibration Sickness"

Moscow, Klinicheskaya Meditsina, No 3, 1970, pp 74-78

Abstract: Clinical symptoms of cervical autonomic ganglionitis in patients exposed to local and/or general whole body vibration consisted of headache, eye and ear disturbances, and disturbances of the central nervous system. In a number of cases disturbances of cervical autonomic structures were concurrent with degenerative and dystrophic changes in the spine. Histological studies were conducted in animals subjected to whole-body vibration, pathological changes were found in pre- and post-ganglionic fibers, and in the cells of the sympathetic ganglia. The dominant factor in the etiology of ganglionitis may be pathological impulses from the peripheral nerves and disturbances of the central nervous system. Changes in the spine are of secondary nature and are apparently due to affection of the cervical sympathetic ganglia.

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USSR

UDC: 621.372.852.1(088.8)

MODEL', A. M., STUZHIN, V. A.

"A Harmonic Filter"

USSR Author's Certificate No 253254, filed 24 Jun 68, published 26 Feb 70
(from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6B175 P)

Translation: The proposed harmonic filter consists of a section of rectangular waveguide divided in half by a longitudinal plate parallel to the wide walls, and two rows of waveguide absorbing elements coupled to the waveguide section through apertures in the wide walls. To increase attenuation of harmonics introduced by each absorbing element, the absorbing element is made in the form of a resonator which is a short-circuited section of rectangular waveguide partially filled with an absorbing material in such a way that its Q is of the order of 8-15. The length of the waveguide is equal to half the wavelength of the harmonic in the waveguide, and its width exceeds half the wavelength of the harmonic in free space by no more than 15 percent. In order to expand the frequency band of the absorbed harmonics, the absorbing waveguide resonators are broken up into groups which differ from one another in the dimensions of the wide walls, e. g. by 5 percent.

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USSR

UDC 621.372.85(088.8)

MODEL¹, A. M., KOLONIKIN, N. B.

"Device for Equalizing the Group Time Delay of a Microwave Channel"

USSR Author's Certificate No 276185, Filed 3 Mar 69, Published 12 Oct 70 (from
RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4B187P)

Translation: The proposed device contains wave guide bridges and a resonance ring.

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USSR

UDC 621.372.553

M
MODEL', A. M., KOLONIKIN, N. B.

"A Device for Equalizing the Group Delay Time of a Microwave Channel"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,
No 23, Author's Certificate No 276185, Filed 3 Mar 69, p 63

Abstract: This author's certificate introduces a device for equalizing the group delay time of a microwave channel. The unit contains waveguide bridges and a resonance ring. As a distinguishing feature of the patent, adjustment and tuning of the group delay time equalizer are simplified by forming the feedback circuit from a bridge device with two arms connected to the ring, while the two free arms are connected by a section of transmission line.

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AA0052634

UR 0482

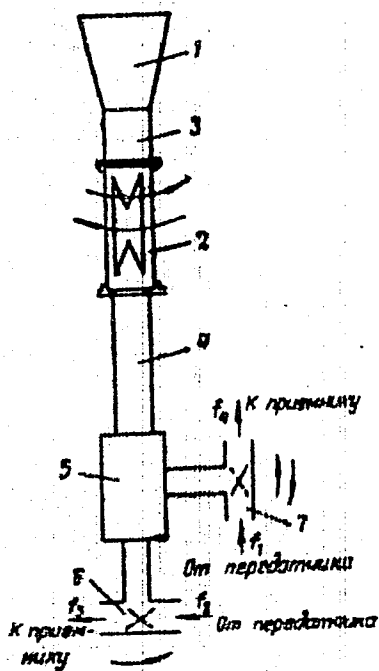
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Soviet Inventions Illustrated, Section II Electrical, Derwent, 1/10

240787 AERIAL-FEEDER PATH. A passive and active communication between satellite and earth and vice versa can be quickly established by using a system comprising an aerial 1, movable by 90° polariser 2, circular waveguide 3, rectangular waveguide 4, dividing filter receiver-transmitter 5 and switches 6 and 7 of transmitters and receivers. 28.12.67. as 1206469/26-9. V.D.KUZNETZOV et alia. (29.8.69.) Bul.13/1.4.69. Class 21a⁴. Int.Cl. H01p.

Kuznetsov, V. D.; Model', A. M.; Krutikov, V. I.

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19821351
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AA0052634



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19821352

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AA0043550

UR 0482

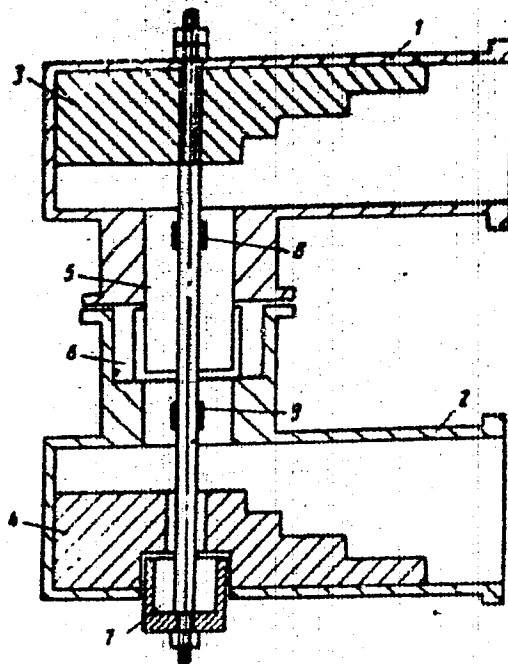
Soviet Inventions Illustrated, Section II Electrical, Derwent,

242255 WAVEGUIDE ROTARY COUPLING in which two waveguide sections equipped with metal pyramids are linked by a coaxial line containing attenuating channels (6), (7). Improved matching is obtained by the provision of capacitative sleeves (8), (9) at a distance equal to an odd multiple of quarter wavelengths. The length of the coaxial line equals to the multiple of half wavelengths of the second waveband.

28.12.67 as 1206471/26-9. A.M. MODEL, V.I. KRUTIKOV.
(16.9.69.) Bul. 15/25.4.69. Class 21a. Int. Cl. H 01 p.

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19761993

AA0043550



42

19761994

gc

USSR

UDC: 621.317.741

MODEL', A. M., KRUTIKOV, V. I., KOLONIKIN, N. B.

"A Device for Measuring Small Losses"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratztsy, Tovarnyye Znaki, No 26, 1970, Soviet Patent No 278796, Class 21, filed 24 Apr 69, p 47

Abstract: This Author's Certificate introduces a device for measuring small losses in waveguide elements. The device consists of an oscillator, a waveguide resonance ring with variable phase shifter, and a directional coupler. As a distinguishing feature of the patent, measurement precision is improved and the working frequency range is extended by making the directional coupler in the form of two opposed polarization selectors with a polarization rotator on a circular waveguide connected between them.

1/1

- 98 -

USSR

UDC: 537.312.62

SAVITSKIY, Ye. M., BARON, V. V., YEFIMOV, Yu. V., MODEL', M. S.

"Structure and Superconducting Properties of Alloys in the Vanadium-Tantalum System"

Moscow, Sverkhprovodyashchiye splavy i soyedin.---sbornik (Superconductive Alloys and Compounds---collection of works), "Nauka", 1972, pp 78-86 (from RZh-Radiotekhnika, No 12, Dec 72, abstract No 12D560 [résumé])

Translation: Solid-state transformations are determined and phase diagrams are plotted for alloys of the vanadium-tantalum system on the basis of methods of microscopic, radiographic, x-ray spectral and thermal analyses, as well as by measuring microhardness and the superconductive transition point for alloy phases. The compound TaV_2 with structure of the $MgZn_2$ type is formed at 1420°C and about 33 at.% tantalum. At 1125°C and 29 at.% tantalum this phase decays eutectoidally to a solid solution with bcc lattice and a phase with structure of the $MgCu_2$ type. The latter is also formed by a peritectoidal reaction at 1280°C and 37 at.% tantalum. It is homogeneous at 800°C in the range of 32-39.5 at.% tantalum; the T_c of the high-temperature phase with hexagonal lattice of the $MgZn_2$ type reaches 10 K. Four illustrations, bibliography of nine titles.

1/1

1/2 033
TITLE--INTERACTION OF MOLYBDENUM ZIRCONIUM AND MOLYBDENUM TITANIUM ALLOYS
WITH CARBON AND OXYGEN CONTAINING GAS MEDIUM -U-
AUTHOR--(03)-AGEYEV, N.V., YEGUSHINA, S.G., MODEL, M.S.

PROCESSING DATE--09OCT70

UNCLASSIFIED

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970 190(6) 1345-7

DATE PUBLISHED--70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--MOLYBDENUM ALLOY, ZIRCONIUM ALLOY, TITANIUM ALLOY, CARBON,
OXYGEN, SOLID SOLUTION, CARBIDE, OXIDE, CRYSTAL LATTICE PARAMETER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1990/0225

STEP NO--UR/0020/70/190/006/1345/1347

ACCESSION NO--AT0108549

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--09OCT70

2/2 033
CIRC ACCESSION NO--AT0108549
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EQUIL. IN MO-ZR AND MO-TI
ALLOYS WHEN HEATED IN A GAS MEDIUM CONTG. C AND OTHER IMPURITIES SOL. IN
MO WHICH FORM SOLID SOLNS., IS DESTROYED. THIS IS DUE TO THE
SUBSTITUTION OF ZR WHICH SEPS. COMPLETELY FROM THE ALLOY AND COLLECTS AS
CARBIDES OR OXIDES ON THE SURFACE. SOLNS. OF LESS THAN OR EQUAL TO
15PERCENT TI AFFECT THE LATTICE PARAMETERS VERY LITTLE, BUT MO-ZR SOLID
SOLNS. ARE DESTROYED COMPLETELY BY C AND O.

UNCLASSIFIED

1/2 016 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--STABILITY OF INTERSTITIAL SOLID SOLUTIONS IN MOLYBDENUM -U-
AUTHOR--(03)-AGEYEV, N.V., YEGUSHINA, S.G., MODEL, M.S. M
COUNTRY OF INFO--USSR
SOURCE--AKADEMIYA NAUK SSSR, DOKLADY, VOL. 109, FEB 11, 1970, P. 1155-1158
DATE PUBLISHED--11FEB70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--SOLID SOLUTION, MOLYBDENUM, BIBLIOGRAPHY, INTERSTITIAL NITRIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1990/0293 STEP NO--UR/0020/70/190/000/1155/1158
CIRC ACCESSION NO--AT0108591
UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AT0108591

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDY OF THE STABILITY OF INTERSTITIAL SOLID SOLUTIONS OF CAST MOLYBDENUM WITH POSSIBLE LARGE LATTICE CONSTANTS, AND MOLYBDENUM CONTAINING 0.014 C. THE SAMPLES WERE SUBJECTED TO HEAT TREATMENT IN THE CAST AND DEFORMED STATE. IT IS FOUND THAT THE INTERSTITIAL SOLID SOLUTIONS WHICH WERE NOT DECOMPOSED DURING COOLING OF THE INGOTS ARE QUITE STABLE. EVEN ADDITIONS OF METALS OF GROUP IVA DO NOT RESULT IN THEIR COMPLETE DECOMPOSITION.

UNCLASSIFIED

USSR

UDC 771.537.61

PRUSS, P. Kh., Candidate of Sciences, MATSIYEVICH, L. V., IVANOV, A. M., MODEL,
N. M., MUZYCHENKOV, M. S., and SKACHKOVA, Ye. V.

"The Interference Resolvometer 'LIR-1'"

Leningrad, Optiko-Mekhanicheskaya Promyshlennost', No 9, Sep 72, pp 30-34

Abstract: The technical characteristics, operating principle, and design of the first industrial sample of a displayed automatic device, the laser interference resolvometer LIR-1, are described by reference to its optical schema and photographs of the control desk and principal blocks. The resolvometer was developed according to the technical assignment of the State Optical Institute by the Krasnogorsk Mechanical Plant for the determination of resolutions of photographic materials in the $440\text{--}2960\text{ mm}^{-1}$ range. A laser of the LG-36A type ($\lambda = 6328\text{ \AA}$) is used as light source. The LIR-1 is a two-beam interferometer in which interference bands with sinusoidal distribution of brightness develop by interaction of two flat waves. It is designed for operation under laboratory conditions. Visual or diffraction methods can be used for the evaluation of exposed and processed resolvograms. Tests of a series of high-resolution photofilms yielded a value of the resolving ability which can be characterized as $R > 2700\text{ mm}^{-1}$, because all frequency groups up to the limiting, were reproduced. Values of R for high-resolution films are presented. Four illustr., one table, twelve biblio. refs.

1/1

USSR

UDC 620.1+621.9.038

VERESHCHAGIN, L. F., Academician, SEMERCHAN, A. A., ~~MODENOV, V. P.~~, BOCHAROVA, T. T., DMITRIYEV, M. YE., Institute of High-Pressure Physics of the Academy of Sciences USSR, Moscow

"Synthetic Diamond -- A Material for High-Pressure Chambers of the Order of a Megabar"

Moscow, Doklady Akademii Nauk SSSR, Vol. 195, No. 3, 21 Nov 70, pp 593-594

Abstract: The problem of obtaining pressures of 1 megabar and above in high-pressure chambers can be solved, in the opinion of the authors, by using composition materials based on synthetic microcrystalline diamonds. It is noted that pressures that can be achieved in high-pressure equipment depend not only on the construction of the equipment but also primarily on the physicomaterial properties of materials used to make the essential parts of the equipment. Tungsten carbide is known to become so plastic after reaching a pressure, in the central part of the equipment of the order of 400 kbar that a further increase in load does not lead to an appreciable rise in pressure inside the chamber. The example given for the reason for interest in achieving pressures of the order of several megabars is the theoretical calculations

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USSR

VERESHCHAGIN, L. F., et al, Doklady Akademii Nauk SSSR, Vol. 195, No. 3, 21 Nov 70, pp 593-594

of Schneider [Helv. Phys. Acta, 42, Fasc. 7/8, 957(1969)] who showed that it is possible to obtain metallic hydrogen at a pressure of the order of 2 megabars which probably has the properties of a superconductor with a high critical temperature. Samples of the materials were produced in a high pressure and temperature device of large capacity. Pressure was necessary in this case not only to reduce the graphitization of the diamond grain under heating but also to produce a sufficiently dense diamond-containing briquet. A metallographic study of the structure showed a predominance of diamond crystals, while the binding was the smaller portion of the volume of the material. The diamond grains have multiple contacts and apparently form a three-dimensional framework, as distinct from existing abrasive compositions in which diamond crystals are isolated from one another by the binder. The hardness of samples with a grain size of 2-3 μ was on the average 97 HRA. The elastic modulus as determined by an ultrasonic method on samples of size 12 x 8 mm with a grain size of 10-15 μ was ~60,000 kg/mm². It is concluded that exceptional hardness exceeding the hardness of known metallo- and mineral-ceramic solid alloys, in combination with a sufficiently high elastic modulus-can be obtained in diamond compositions with a high concentration of diamond and a minimum concentration of binder made by the application of high pressures.

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- 65 -

USSR

UDC: 519.214

BIKYALIS, A. ~~MODERNI, T.~~

"Concerning an Asymptotic Expansion for n-Fold Convolutions of k-Dimensional Distributions"

Lit. mat. sb. (Lithuanian Mathematics Collection), 1970, 10, No 3, pp 433-443 (from RZh-Kibernetika, No 7, Jul 71, Abstract No 7V45)

Translation: Asymptotic expansions of the form

$$P^{*n}(A \sqrt{n}) = \sum_{v=0}^j C_n^v \Phi^{(n-v)}(P-\Phi)^{*v}(A \sqrt{n}) + r_{n,j+1}(A \sqrt{n})$$

are considered for an n-fold convolution P^{*n} of k-dimensional distributions $P(A)$ of the random vector $\xi - E\xi = (\xi_1 - E\xi_1, \dots, \xi_k - E\xi_k)$. Here A is a Borel set of k-dimensional Euclidean space, Φ is k-dimensional normal distribution with parameters $(0, V)$, V is the matrix of second moments of vector ξ . An estimate from above is found for

$$C_n^v \Phi^{(n-v)}(P-\Phi)^{*v}(A \sqrt{n})$$

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BIKYALIS, A., MODERUDI, I., Lit. mat. sb., 1970, 10, No 3, pp 433-443

assuming existence of moments of order $2+\delta$ ($0 < \delta \leq 1$) for the random vector ξ . An estimate is found for the remainder $r_{n,3}(A\sqrt{n})$, which is uniform with respect to all convex Borel sets A. V. Petrov.

2/2

- 5 -

USSR

UDC 621.374.44

SOBOLEV, A. I., KOTOV, Yu. A., MODESTOV, L. A.

"Frequency Multipliers with Superhigh Multiplicity"

V sb. Poluprovodn. pribory i ikh primeneniye (Semiconductor Devices and Their Application--collection of works), Vyp. 23, Moscow, "Sov. radic", 1970, pp 109-132 (from RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10D28)

Translation: A method is given for calculating the output power of frequency multipliers with superhigh multiplicity coefficient in the decimeter wavelength range. Descriptions are given of wide-band and wide-range tunable multipliers based on parametric diodes, together with the results of an experimental investigation of these multipliers. The use of diodes which operate under conditions of partial blocking of the PN junction, and utilization of the phenomenon of charge accumulation with rational selection of the multiplier state makes it possible to create multipliers which are simple in design with output power of $\sim 10^{-8}$ W. Authors' abstract.

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MODIN, A. A.

Automation
Control

PROBLEMS OF DEVELOPMENT OF AUTOMATIC CONTROL SYSTEMS

Article by Candidate of Economic Sciences A. A. Modin, Moscow, USSR, March 1977, pp. 19-30

DEC 02-52

The development of automatic control systems (ACS) is one of the most important aspects of modern control of socialist industry. The adoption of ACS is aimed at increasing the efficiency of industrial-economic activity of the enterprises and branches of the national economy by utilizing all the reserves that cannot be put to work by the control systems as presently constituted. Thus, the magnitude of the effect of ACS is limited, on the one hand, by the potentials of the subject (enterprise or branch) and, on the other hand, by the control of the resources of the system that can be achieved with the existing control system with respect to all aspects of industrial-economic activity. Theoretical investigations and experience with ACS have shown that the margins in this area are rather large. Increased efficiency of industrial-economic activity of enterprises and branches of the national economy as a result of the use of ACS is attributed to the higher quality of solution of economic planning problems and increased use of scientific industrial resources on this basis, as well as more efficient use of the work time of supervisory personnel of ministerial and departmental agencies.

Improved quality of economic planning solutions is achieved, first of all, by using methods for optimizing the programs of activity of enterprises and branches of the national economy. The use of economic-mathematical methods for optimization of an industrial program makes it possible to select the products and production volumes that ensure the best result of industrial-economic activities for the enterprise. The solution of control problems by means of economic-mathematical methods, as shown by Soviet experience, increases production volume by 1-8% compared with the plan worked out by traditional methods. ACS substantially increases the loading factor of industrial capacities. In many branches of the national economy, such as instrument engineering, this method has been used to increase the loading of capacities of individual enterprises by 15-18%. The use of economic-mathematical methods for optimizing an industrial program is especially important on the branch control level -- in

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USSR

UDC: 51

MODIN, A. A., YAKOVENKO, Ye. G.

"Organization and Management of the Production Process in an Industrial Enterprise"

Organizatsiya i upravleniye proizvodstvennym protsessom na promyshlennom predpriyatii (cf. English above), Moscow, "Nauka", 1972, 296 pp, ill. 96 k. (from RZh-Kibernetika, No 8, Aug 72, Abstract No 8V583 K)

[No abstract]

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USSR

UDC 621.382.002

GARBER, R.I., GVERDTSITELI, I.G., GMAP, A.K., GULDAKASHVILI, A.I., MODLIN, A.A.,
FEDORENKO, A.I.

"Study Of Radiation Damage Of Single Crystals Of Silicon After Doping With
Boron Ions With An Energy Up To 100 Kev"

V sb. Radiats. fiz. nemet. kristallov (Radiation Physics Of Nonmetallic Crystals--
Collection Of Works), Vol. 3, Part 2, Kiev, "Nauk.dumka," 1971, pp 133-138 (from
RZh--Elektronika i yeye primeneniye, No 10, October 1971, Abstract No 10B25)

Translation: The extent of radiation damage in the depths of a doping layer was
determined by the method of layered atomization [raepyleniye] by bombardment by
a beam of Ag^{+} ions with an energy of 1 kev and a current density of 10 microamp.
 cm^{-2} with subsequent study of the pattern of the deposits on glass collectors
with a central 2-mm aperture for transmission of the beam of ions. 3 ill. 7 ref.
I.M.

1/1

- 156 -

1/2 020 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--N,4,PYRIMIDINYL,ETHYLAMINE. III. 2,5,6,DERIVATIVES -U-

AUTHOR--(05)-SOKOLOVA, V.N., MEDNIKOVA, G.A., MAGIDSON, D.YU.,
SHCHERBAKOVA, L.I., PERSHIN, G.N.
CCOUNTRY OF INFO--USSR

SOURCE--KHIM. GETEROTSIKL. SOEDIN. 1970, (3), 422-6

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY

TOPIC TAGS--PYRIDINE, AMINE DERIVATIVE, ANTITUBERCULAR DRUG,
BACTERIOSTASIS, MOLECULAR STRUCTURE, CHEMICAL SYNTHESIS

CENTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3003/0995

STEP NO--UR/0409/70/000/003/0422/0426

CIRC ACCESSION NO--AP0130041

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0130041

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SHOWN ON MICROFICHE. HIGH
TUBERCULOSTATIC ACTIVITY AGAINST H SUB37 RV (MYCOBACTERIUM TUBERCULOSIS)
WAS FOUND FOR A FEW OF THE SYNTHESIZED COMPOS., THE OTHERS SHOWED
BACTERIOSTATIC ACTIVITY AGAINST L (ACTOBACILLUS) CASEI 7369 AND
STREPTOCOCCUS FAECALIS 8043. FACILITY: VSES. NAUCH.-ISSLED.
KHIM.-FARM. INST. IM. ORDZHKINIKIDZE, MOSCOW, USSR.

UNCLASSIFIED

1/3 010 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--INDOLE CHEMISTRY. XI. SYNTHESIS OF ALPHA CARBOLINES AND
PYRIMIDO,1,2,A,INDOLES FROM 2,AMINOINDOLES -U-
AUTHOR--(04)-KOST, A.N., SAGITULLIN, R.S., GORBUNOV, V.I., MODYANOV, N.N.
COUNTRY OF INFO--USSR
SOURCE--KHIM. GETEROTSIKL. SOEDIN. 1970, (3), 359-63 (RUSS).
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--INDOLE DERIVATIVE, CHEMICAL SYNTHESIS, MOLECULAR STRUCTURE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO-----FD70/605002/D11 STEP NO--UR/0409/70/000/003/0359/0363
CIRC ACCESSION NO--AP0139462
UNCLASSIFIED

2/3 010

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0139462

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TO ETONA (FROM 23 G NA IN 230 ML ETOH) WAS ADDED AT 15DEGREES 146 G (ETO SUB2 C) SUB2 AND 137 G O,NITROTOLUENE (I). THE MIXT. WAS REFLUXED 25 MIN, 100 ML H SUB2 O ADDED, ADN REFLUX CONTINUED FOR 1 HR. ETOH AND I WERE STEAM DISTD., THE REMAINING SOLN. WAS TREATED WITH NORIT AT 75-80DEGREES, AND THEN AT 50DEGREES WAS ADDED 49 G NH SUB2 OH.HCL IN 75 ML H SUB2 C TO YIELD 57PERCENT O,NITROPHENYLPYRUVIC ACID OXIME (II), M. 158-60DEGREES. II REFLUXED IN H SUB2 O WITH ACOH GAVE O,NITROBENZYL CYANIDE (III), M. 78-82DEGREES. III, REDUCED IN PROH WITH SN AND HCL GAVE O,AMINOBENZYL CYANIDE (IV) IN 90PERCENT YIELD. IV (16 G) IN 100 ML ISO-PROH WAS ADDED TO ISO-PRONA (FROM 10 G NA IN 200 ML PROH) AND THE MIXT. REFLUXED 1 HR UNDER H TO YIELD 70PERCENT 2,AMINOINDOLE,HCL (V), M. 224-6DEGREES. V WITH MEI GAVE 90PERCENT 1,METHYL,2AMINOINDOLE,HI (VI), M. 262-3DEGREES. SIMILARLY WAS OBTAINED IN 65PERCENT YIELD 1,BENZYL,2,AMINO,INDOLE,HCL, M. 256-9DEGREES, AND IN 76PERCENT YIELD 1,CARBETHOXY,2,AMINO,INDOLE,HCL, M. 255-8DEGREES. A MIXT. OF 1 G VI, 0.75 G AC SUB2 CH SUB2 IN 8 ML DRY C SUB5 H SUB5 N WAS REFLUXED 2.5 HR UNDER INERT GAS TO YIELD 100PERCENT VII (R EQUALS ME) M. 110-11DEGREES (DIL. ETOH), PICRATE M. 229-30DEGREES (MEOH). SIMILARLY WAS OBTAINED IN 64PERCENT YIELD V (R EQUALS PHCH SUB2), M. 120.5-1.5DEGREES (MEOH), PICRATE M. 227-9DEGREES (ETOH). A MIXT. OF 1 G VI, 2 G MALONALDEHYDE DIETHYL ACETAL AND 0.7 ML HCL IN 3 ML ETOH WAS KEPT 20 MIN AT ROOM TEMP., 15 ML C SUB5 H SUB5 N ADDED ADN THE MIXT. KEPT OVERNIGHT TO YIELD 8PERCENT 1,METHYL,ALPHA,CARBOLINE M. 53DEGREES (HEXANE), PICRATE M. 225DEGREES (MEOH).

UNCLASSIFIED

3/3 010 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC. ACCESSION NO--AP0139462
ABSTRACT/EXTRACT--A MIXT. OF 1 G V AND 0.75 G AC SUB2 CH SUB2 IN 10 HL C
SUB5 H SUB5 N WAS REFLUXED 1.5 HR IN INERT GAS ATM. TO YIELD 88PERCENT
VIII, M. 111.5-12.5DEGREES, PICRATE M. 227-9DEGREES (MEQH).
FACILITY: MOSK. GOS. UNIV., MOSCOW, USSR.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--300170
TITLE--DESTRUCTION AND RECONSTRUCTION OF THE MECHANICAL STABILITY OF
CONTACTS BETWEEN PARENCHYMAL LIVER CELLS OF MICE --U-
AUTHOR--(02)--MALENKOV, A.G., MOBYANOVA, YE.A. M

COUNTRY OF INFO--USSR

SOURCE--TRITOLOGIYA 1970, 12(3), 392-5

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--MOUSE, LIVER, ARTERY, DIALYSIS, CELL PHYSIOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3002/0415

STEP NO--UR/9053/70/012/003/0392/0395

CIRC ACCESSION NO--AP0127986

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0127986

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MICE WERE DECAPITATED AND A LIGATURE WAS MADE IN THE HEPATIC ARTERY. THE LIVER WAS PERFUSED THROUGH THE PORTAL VEIN AT 20DEGREES WITH A SOLN. CONTG. 9 G NA⁺CL-1., 0.4 G KCL-1., AND 2 TIMES 10 PRIME NEGATIVE3 M MGCL SUB2. THE EFFLUENT SOLN. WAS COLLECTED 15-20 MIN AFTER PERFUSION. THE PERFUSATE CONTAINED A MACROMOL. COMPONENT (MOL. WT. IS GREATER THAN30,000) RESPONSIBLE FOR THE RESTORATION OF CELL COUPLING. WHEN 2 TIMES 10 PRIME NEGATIVE2 M CA PRIME POSITIVE POSITIVE WAS ADDED TO THE 10 FOLD CONCD. PERFUSATE, THE COUPLING STABILITY OF PARENCHYMAL CELLS WAS RESTORED TO 50-60PERCENT. CA PRIME POSITIVE POSITIVE ALONE WAS UNABLE TO PRODUCE RESTORATION. IF A DIALYSIS MEMBRANE WAS USED, NO CELL RESTORATION OCCURRED. THE RESTORING FACTOR IN THE PERFUSATE IS PROBABLY AN INTERCELLULAR CEMENTING SUBSTANCE. FACILITY: DEP. STUDIES CARCINOGENIC AGENTS, INST. EXP. CLIN. ONCOL., MOSCOW, USSR.

UNCLASSIFIED

Radiobiology

UDC 616.72-018.3-001.29-091

USSR

ZEDGENIDZE, G. A., MODYAYEV, V. P., GULYAYEV, V. A., and ANKINA, M. A.,
Institute of Medical Radiology, Academy of Sciences USSR

"Structural Changes in Articular Cartilage After Irradiation"

Moscow, Meditsinskaya Radiologiya, No 3, 1972, pp 3-10

Abstract: Electron-microscopic and histochemical study of articular cartilage in rabbits revealed a greater heterogeneity of structure than expected. Of the seven structural zones distinguished (acellular, surface, transitional, isogenous groups, columns, hypertrophic cells, and primary calcification), those of the transitional and isogenous groups proved to be the most sensitive to a single dose (900 rad) of local gamma radiation. Within a day of exposure, cells of different sizes and shapes and empty lacunae appeared in these two zones. Vacuolization or wrinkling of the cytoplasm, irregular distribution of chromatin in the nuclei, and various stages of karyopyknosis and karyolysis were characteristic. These changes became increasingly pronounced until day 14 when all the zones were affected. Most of the changes were reversible and signs of restoration (proliferation of cells) began to appear about day 17 in the upper part of the cartilage. The regenerative process was completed by day 30 and the articular cartilage remained unchanged thereafter, but it looked "older" than the tissue of the control animals.

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1/2 030 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--KINETICS AND MECHANISM OF PROPANE PYROLYSIS IN A HYDROGEN PLASMA
JET -U-
AUTHOR--(02)--MOGEL, G., YEREMIN, YE.N. *m*
COUNTRY OF INFO--USSR
SOURCE--ZH. FIZ. KHIM. 1970, 44(1), 43-6
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, PROPULSION AND FUELS

TOPIC TAGS--PYROLYSIS, PROPANE, PLASMA JET, PLASMA FLOW, CHEMICAL REACTION
MECHANISM, PROPYLENE, ACETYLENE, ETHYLENE, METHANE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/2065

STEP NO--UR/0076/70/044/001/0043/0046

CIRC ACCESSION NO--AP0125652

UNCLASSIFIED

2/2 030

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125652

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. PYROLYSIS OF PROPANE IN A H PLASMA
JET IS A 1ST ORDER REACTION. THE INFLUENCE OF THE PLASMA FLOW RATE ON
PYROLYSIS IS SHOWN. THE SUGGESTED REACTION MECHANISM EXPLAINS THE
PRESENCE OF PROPYLENE, ACETYLENE, ETHYLENE, AND METHANE IN THE REACTION
PRODUCTS. FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW,
USSR.

UNCLASSIFIED

1/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--HALOGENATION OF A BENZENE BORONATE OF D-GLUCOSE --U--
AUTHOR--(02)--MOGEL, L.G., YURKEVICH, A.M.
COUNTRY OF INFO--USSR
SOURCE--ZH. OBSHCH. KHIM. 1970, 40(3), 708
DATE PUBLISHED--70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--BENZENE DERIVATIVE, ORGANOBORON COMPOUND, GLUCOSE,
HALOGENATION, CHEMICAL SYNTHESIS, MOLECULAR STRUCTURE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3001/1985
CIRC ACCESSION NO--AP0127380
STEP NO--UR/0079/70/040/003/0708/0708
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--30OCT70

2/2 015
CIRC ACCESSION NO--AP0127380

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HEATING I IN CCL SUB4 WITH 2 MOLES
PH SUB3 P, FOLLOWED BY REMOVAL OF PH SUB3 PD AND PHBQ SUB2 H SUB2 BY
TREATMENT WITH 1,3,PROPANEDIOL, GAVE (VIA II) 79PERCENT III (X EQUALS
CL), M. 135-6DEGREES. WITH 1:1 RATION OF THE REACTANTS IN CHBR SUB3 AT
20DEGREES IN 0.5 HR THERE WAS FORMED 81PERCENT III (X EQUALS BR), M.
126-7DEGREES. FACILITY: VSES. NAUCH.-ISSLED, VITAM. INST.,
MOSCOW, USSR.

UNCLASSIFIED

UDC 616.988.25-022.395.42.036.2(571.62)

USSR

VERETA, L. A., OBUKHOV, G. D., KOVALEVA, Ye. I., SKVORETSOVA, T. M.,
MOGILEV, V. Ye. VOROB'YEVA, R. N., NIKOLAYEVA, S. P., KUDAKOVA, T. M., and
ROSLYAKOV, G. Ye., Khabarovsk Scientific Research Institute of Epidemiology and
Microbiology, Khabarovsk

"Landscape-Epidemiological Subdivision of the Amur Territory With Respect to
Tick-Borne Encephalitis"

Moscow, Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, Vol 42, No 1,
Jan/Feb 73, pp 28-32

Abstract: An evaluation of the danger of human infection with tick-borne encephalitis in territorial subdivisions of the Amur region differing with respect to natural characteristics has been carried out on the basis of a number of factors, principally the local density of Ixodid ticks. The index of probability of infection (a product of the ratio of persons who have visited forests by the ratio of those who observed the attachment of ticks by the ratio of ticks infected with the virus of the disease) based on data collected in 1969-71 was used as a criterion. Regions with a high incidence of the disease were located in the zone of coniferous-wide-leaved forests, those with a moderate incidence in the subzone of the southern tayga and in agriculturally developed areas in the zone of coniferous-wide-leaved forests, and those with

USSR

VERETA, L. A., et al., Meditsinskaya Parazitologiya i Parazitarnyye Bolezni,
Vol 42, No 1, Jan/Feb 73, pp 28-32

a low incidence in the subzone of the middle tayga. Acute forms of the disease occurred both in regions with a high and a low incidence. The ratio of focal (meningoencephalitic) forms and the index of lethality, which corresponded to this ratio, showed some tendency of increasing from the south to the north.

2/2

- 16 -

1/2 021 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--THE STATE OF VISION AND REFRACTION IN JUVENILES OF THE CITY OF
MINSK -U-
AUTHOR-(02)-MOGILEVCHIK, A.Z., BONDAREVA, A.F. *M*
COUNTRY OF INFO--USSR
SOURCE--ZDRAVOOKHRANENIYE BELORUSSII, 1970, NR 2, PP 42-43
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--VISUAL DEFECT, PEDIATRICS, MEDICAL EXAMINATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1988/1657 STEP NO--UR/0477/70/000/002/0042/0043
CIRC ACCESSION NO--AP0106403
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--09OCT70

2/2 021

CIRC ACCESSION NO--AP0106403

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. AS A RESULT OF PROPHYLACTIC EXAMINATION OF 31641 JUVENILES OF THE CITY OF MINSK THE AUTHORS STUDY THE STATE OF REFRACTION AND COME TO THE CONCLUSION THAT THE PERCENTAGE OF MYDPIA AMONG JUVENILES COMPOSES 10PERCENT. OF THEM 8.3PERCENT ARE MYOPES OF THE LOW DEGREE, 2.3PERCENT, OF MEAN QUANTITY, 0.3PERCENT, HIGH LEVEL MYOPES. HYPERMETROPIA IN JUVENILES COMPRISES 0.9PERCENT, ASTIGMATIC REFRACTION COMES ACROSS ONLY IN 0.4PERCENT OF THE NUMBER OF ALL THE EXAMINED JUVENILES.

UNCLASSIFIED

USSR

UDC: 517.9

MOGILEVICH, L. I., Saratov

"Concerning the Asymptotic Method of Solving Nonlinear Problems of Gas-dynamics With Weak Shock Waves. Some Problems of the Theory of Short Waves"

Kazan', Izvestiya Vysshikh Uchebnykh Zavedeniy: Matematika, No 12(127),
Dec 72, pp 77-83

Abstract: The author develops the method of spliced asymptotic expansions for non-self-similar problems of propagation of one-dimensional nonstationary waves, which gives a mathematical basis for the theory of short waves and enables setting up a boundary value problem and formulating a completely defined short wave theory. The author thanks S. V. Fal'kovich for formulating the problem and for his guidance in discussion of the work.

1/1

1/2 016 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--OXIDATION OF OLIGOESTER ACRYLATES DURING FILM FORMATION -U-

AUTHOR--(02)-MOGILEVICH, M.M., PRISHCHEPCHIK, N.A.

COUNTRY OF INFO--USSR

SOURCE--LAKOKRASOCH. MATER. IKH PRIMEN. 1970, (1), 44-7

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--OLIGOMER, POLYESTER RESIN, ACRYLATE, ETHYLENE GLYCOL, ADIPATE,
PENTAERYTHRITOL, OXIDATION, POLYMERIZATION RATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1997/0427

STEP NO--UR/0303/70/000/001/0044/0047

CIRC ACCESSION NO--AP0119363

UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119363

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CHANGES IN THE CONTENT OF OO, OH, AND CO SUB2 H GROUPS IN THE FOLLOWING OLIGUESTERS WERE STUDIED: BIS(ETHYLENE GLYCOL) ADIPATE DIMETHACRYLATE, BIS(TRIMETHYLOLETHANE) ADIPATE TETRAMETHACRYLATE, OR BIS(PENTAERITHRITOL) ADIPATE HEXAMETHACRYLATE. THE CHANGES ARE SHOWN IN GRAPHS IN WHICH THE FORMATION (OR DECOMP.) RATES OF THESE GROUPS IN THE 20-100DEGREES RANGE ARE PLOTTED VS. TIME. THE DIFFERENCES OF THESE OLIGOMERS ARE DUE BOTH TO THE RATE OF O PERMEATION THROUGH THEM AND ALSO TO DIFFERENT POLYMN. RATES.

UNCLASSIFIED

USSR

UDC 621.375.4.001.5:621.382.23.011.222

MOGILEVSKAYA, L.YA., TAMARCHAK, D.YA., UVBARKH, V.I., KHOFUNTSEV, YU.I.

"Possibility Of Decreasing Stabilization Bands With Synthesis Of Tunnel Amplifiers"

Radiotekhnika i elektronika, Vol XVII, No 3, Mar 1972, pp 549-555

Abstract: The possibilities are considered of decreasing the stabilization frequencies of tunnel amplifiers of various types with parallel tuning in which a tunnel diode is presented in the form of the frequency-independent parallel-connected parameters R_{eq} , C_{eq} . The results obtained are valid for dual circuits with series tuning with presentation of a tunnel diode in the form of a series-connected R'_{eq} , G'_{eq} . 6 fig. 5 tab. 4 ref. Received by editors, 11 Jan 1971.

1/1

- 1 -

USSR

UDC 621.357.7.035.4.669.65'76

MOGILEVSKAYA, E. B.

"Special Method for Determining Bismuth in the Electrolyte and Galvanic Films of Tin and Bismuth"

Obmen opytom b radioprom-ste (Exchange of Information in the Radio Industry), Vyp 11, Moscow, 1972, p 48 (from Referativnyy Zhurnal -- Khimiya, No 8(II), 1973, Abstract No 8L330 V. V. Grinina)

Translation: A report is given on the possibility of the quantitative determination of Bi in the electrolyte and the semi-quantitative determination of Bi in Sn-Bi electrically deposited films by a spectral method on the quartz spectrometer, ISP-22, using the DT-1 source light. Standards were made from the electrolyte for the precipitation of Sn-Bi alloy having a concentration $\text{Bi}(\text{NO}_3)_3 \cdot 5\text{H}_2\text{O}$ of 0.8 g/liter. Copper in the form of a 0.4% solution of CuSO_4 was added as an internal standard. Analyses were made using three standards. The analytic pair of lines was Bi 3067 Å and Cu 3247 Å. The determination of the amount in the film was determined on the IS-18 spectrograph on the basis of tables which are presented.

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USSR

UDC 615.477.24:616.12-089.28

SHUMAKOV, V. I., MOGILEVSKIY, E. B., KROL, A. D., ZUBAREV, V. A., SHIRKINA, T. V.,
and YUGIN, A. A., Scientific Research Institute of Clinical and Experimental
Surgery, Moscow

"Model of an Artificial Heart for Intrapericardial Implantation"

Moscow, Meditsinskaya Tekhnika, No 5, Sep/Oct 70, pp 5-10

Abstract: A model is presented of an implantable artificial heart which consists of two mirror halves (right and left), each containing an artificial auricle and an artificial ventricle. The median surfaces of the ventricles are flat so that they may be easily connected after implantation. The overall dimensions of the unit and the volume of its cavities depend upon the heart dimensions of the animal for which the artificial heart is intended. Information is provided concerning the design, development, and testing of the artificial heart unit. Stand tests of implantable models developed by the authors and of control systems for them have made it possible to determine their functional parameters and to select the optimal operating conditions. It has been determined that the models can be used for experiments with total substitution of the pump function of the natural heart. Experiments on calves and dogs have been already initiated.

1/1

USSR

UDC: 621.318.57-529

MOGILEVSKIY, G. V., SOSKOV, A. G., RAYNIN, V. Ye., SMILYANSKIY, I. I.

"A Kipp Oscillator for a Time Relay"

USSR Author's Certificate No 254629, filed 28 Oct 68, published 12 Mar 70
(from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 11,
Nov 70, Abstract No 11A66 P)

Translation: This Author's Certificate introduces a kipp oscillator for a time relay. The device contains two transistors of different conductivity types, a discharge resistor, and a controlling and a main capacitor connected between the base of one transistor and the collector of the other. The required slope for the curve expressing hold time as a function of controlling voltage is attained by selecting the time for recharging the main condenser an order of magnitude greater than for the controlling capacitor. One illustration. N. S.

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USSR

UDC 616.932-092

GOL'D, E. Yu., MARCHUK, L. M., and MOGILEVSKIY, I. Ya., Ministry of Health
USSR, Moscow

"On the Genesis of El-Tor Cholera"

Moscow, Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 3, 1973,
pp 122-127

Abstract: A theory is suggested for the development of El-Tor cholera to its recent pandemic proportions. First it is argued that El-Tor cholera cannot have originated in the Celebes, Indonesia as a disease endemic to that island. El-Tor cholera agents had been isolated together with classical cholera agents prior to its detection in the Celebes in India and Thailand. Moreover El-Tor vibrios may have been misidentified in other parts of the world as classical vibrios due to a misconception about differences in the vibrios' hemolytic properties. Instead, it is suggested that El-Tor vibrios developed in India in the first half of the 20th Century as an offshoot of the Koch vibrio in response to environmental changes, following improvements in living conditions, which provided a selective advantage to the El-Tor vibrio. Thereafter its spread throughout the world was facilitated by increasing mobility of populations. In the first stage of its existence it was rare enough in other parts
1/2

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USSR

GOL'D, E. Yu., et al., Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 3, 1973, pp 122-127

of Asia and Europe that it was unable to cause epidemics and was detected only sporadically. With international epidemic control measures ineffective against this form, by the 1950's it accumulated in secondary endemic foci, caused local epidemics there, and finally after being concentrated to critical levels it spread to develop the seventh cholera pandemic. The authors discount the theory that significant changes occurred during this period in the pathogenicity of El-Tor vibrios and favor socio-economic factors as dominant in the rise of El-Tor cholera.

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Information Theory

USSR

UDC 621.396.232.1

SMIRNOV, N. I., MOGILEVSKIY, I. YU.

"Allowable Number of Simultaneously Active Addresses of a Multiaddress System with Code Separation"

Moscow, Radiotekhnika, Vol 26, No 10, 1971, pp 13-24

Abstract: The dependence of the allowable number of simultaneously active information sources of a multiaddress system on the mutual correlation characteristics of complex systems with different levels of fluctuation noise at the receiver input was investigated. Coherent and incoherent operating conditions with a passive and active interval are considered.

The relations were found for the allowable number of simultaneously active addresses, $N_{\text{allow.addr.}}$ for different operating conditions as a function of the length of the sequences n and the required quality of information transmission determined by the given error probability, P_{error} . The real statistical characteristics of the correlation functions of linear recurrent sequences were considered when deriving these relations. It was demonstrated that the values of $N_{\text{allow.addr.}}$ under incoherent operating conditions with passive and active

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USSR

SMIRNOV, N. I., et al., Radiotekhnika, Vol 26, No 10, 1971, pp 13-24

intervals differ little from $N_{\text{allow.addr.}}$ under coherent conditions with a passive interval. In the case of coherent operating conditions with an active interval by comparison with the remaining versions, it is possible to obtain a gain in the ratio of $N_{\text{allow.addr.}}$ by approximately two times. For low fluctuation noise, that is, for large k , determination of $N_{\text{allow.addr.}}$ from the derived equation gives a good estimate of the operation of a coherent system both for active and passive intervals, and a coherent system, for a passive interval. Inasmuch as a system with a passive interval requires half as much energy and has a simpler transmitter and receiver and half as many quasiorthogonal signals, in the case of incoherent operating conditions, the passive interval is preferable since the difference in $N_{\text{allow.addr.}}$ for systems with an active interval and a passive interval is insignificant. It is possible to assign the allowable transmission rate $R = F/b$ for various values of the signal base B as a function of its spectral width F . Therefore, it is necessary to use signals with a base of no less than 2,047 to insure simultaneous satisfactory operation on one frequency band in a multiaddress asynchronous communications system of several tens (nearly 100) addresses. The existing radio elements (microcircuits) permit a transmission rate of 5000 baud in each of the $N_{\text{addr.}}$

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AA0043305

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

1/70

240841 VIBRATIONAL MAGNETOMETER consisting of twin search coils connected in series and in opposition and axially displaced. The coils are vibrated by a fork in a self excitation circuit. When placed near the surface of ferro-magnetic material the instrument detects tangential component of magnetic field which is measured by a phase-sensitive detector.

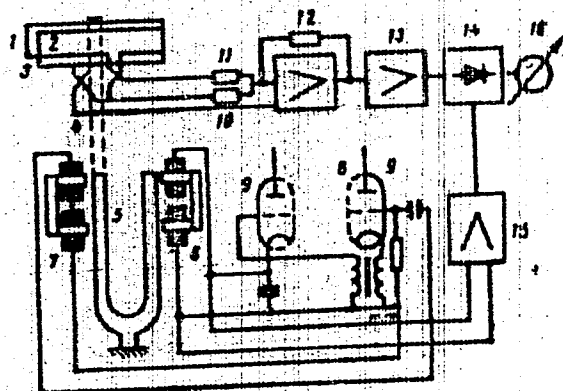
14.5.64 as 900165/26-25. V. N. MOGILEVSKIY (26.8.69)
Bul 13/1.4.69. Class 21a. Int. Cl. G 01F 1/00

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19761506

1/2 029 UNCLASSIFIED PROCESSING DATE—30OCT70
TITLE—EFFECT OF ZINC SULFATE ON THE FORMATION AND PROPERTIES OF A
POLYNOSIC FIBER —U—
AUTHOR—(04)—BOCHKINA, Y.S., NIKOLAYEVA, N.S., MOGILEVSKIY, YE.M.,
MIKHAYLOV, N.V.
COUNTRY OF INFO—USSR
SOURCE—KHIM. VOLOKNA 1970, (2), 46-9
DATE PUBLISHED—70

SUBJECT AREAS—MATERIALS

TOPIC TAGS—ZINC COMPOUND, SULFATE, COAGULATION, SYNTHETIC FIBER, TENSILE
STRENGTH, ELONGATION

CONTROL MARKING—NO RESTRICTIONS

DOCUMENT CLASS—UNCLASSIFIED
PROXY REEL/FRAE—2000/0832

STEP NO—UR/0183/70/000/002/0046/0049

CIRC ACCESSION NO—AP0124499

UNCLASSIFIED

2/2 029

UNCLASSIFIED

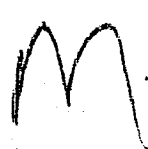
PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124499

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INCREASE OF ZNSO SUB4 CONCN. FROM 0-0.6 G-L. IN THE COAGULATING BATH INCREASES THE POLYNOSIC FIBER TENSILE STRENGTH AT BREAK (SIGMA) AND ITS ELONGATION AT BREAK (EPLISON). THE CONTINUING INCREASE OF ZNSO SUB4 CONCN. ABOVE 6 G-L. LEVEL DECREASES SIGMA BUT INCREASES EPLISON. THE ADDN. OF 1.5PERCENT (ON ALPHA CELLULOSE) POLY(ETHYLENE GLYCOL) MODIFIER TO THE VISCOSE HAS NO EFFECT ON THE CHANGES OF EPLISON AND SIGMA WITH ZNSO SUB4 CONCN. THESE EFFECTS ARE ASSOC'D. WITH PH CHANGES OF THE COAGULATING BATH AND THE CHANGED CONCNS. OF ZNS AND ZNSO SUB4.

UNCLASSIFIED

1/2 007 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--VIXCOSES AND VISCOSE FIBERS FROM LOW SUBSTITUTED CARBOXYMETHYL
CELLULOSE -U-
AUTHOR--(03)-YASHUNSKAYA, A.G., KONVALOVAY, YE.M., MOGILEVSKIY, YE.M.
COUNTRY OF INFO--USSR
SOURCE--KHIM. VOLOKNA 1970, (1), 24-7
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--RAYON, CELLULOSE RESIN, CARBON DISULFIDE, SYNTHETIC RESIN
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1984/1821 STEP NO--UR/0183/70/000/001/0024/0027
CIRC ACCESSION NO--AP0100395
UNCLASSIFIED



UNCLASSIFIED

PROCESSING DATE--18SEP70

2/2 007


CIRC ACCESSION NO--AP0100395

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. VISCOSE (I) FIBERS PREPD. FROM A CM. CELLULOSE (II) WITH A LOW DEGREE OF SUBSTITUTION EXHIBITED SUPERIOR FILTERABILITY, WHICH REDUCED THE CONSUMPTION OF CS SUB2 DURING XANTHATION. INTRODUCTION OF A SMALL NO. OF II GROUPS AFFECTED THE STRUCTURE AND THE PHYSICOMECH. PROPERTIES OF I FIBERS. THUS, THE PHYSICOMECH. PROPERTIES OF I YARN MARKEDLY DETERIORATED, ALTHOUGH THE STRUCTURE AND THE PROPERTIES OF A CORD FIBER WERE ESSENTIALLY UNCHANGED, WHEREAS THE STRUCTURE OF A POLYNOSIC FIBER DETERIORATED AND ITS RESISTANCE TO ALKALI DECLINED.

UNCLASSIFIED

1/2 022
UNCLASSIFIED
PROCESSING DATE--18SEP70
TITLE--STRUCTURAL FEATURES OF VISCOSE TEXTILE THREADS OBTAINED BY VARIOUS
METHODS -U-
AUTHOR--(031)-KHAZANOVA, A.S., FINGER, G.G., MOGILEVSKIY, YE.M.
COUNTRY OF INFO--USSR
SOURCE--KHIM. VOLOKNA 1970, (1), 30-2
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--TEXTILE, RAYON, MECHANICAL STRESS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1984/1823
STEP NO--UR/0183/70/000/001/0030/0032
CIRC ACCESSION NO--AP0100397
UNCLASSIFIED



2/2 022 UNCLASSIFIED PROCESSING DATE--18SEP70
CIRC ACCESSION NO--AP0100397
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STRUCTURE OF VISCOSE (I) YARN,
PREPD. BY CONTINUOUS, SEMICONTINUOUS, AND CENTRIFUGAL METHODS UNDER
IDENTICAL PROCESSING CONDITIONS, WAS STUDIED BY MEASURING THE ISOMETRIC
STRESS. THE STRESS IN A VISCOSE YARN DEPENDED ON RECOVERY FROM EXTENSION
AND DRYING. THE PRESENCE OF 2 MAX. ON A STRESS TEMP. CURVE FOR A I
YARN, PREPD. BY A CONTINUOUS METHOD, SUGGESTED THE PRESENCE OF 2
STRUCTURAL MODIFICATIONS IN THE AMORPHOUS REGIONS OF THE FIBERS.

UNCLASSIFIED

1/2 025
UNCLASSIFIED
PROCESSING DATE--16OCT70
TITLE--PROPERTIES OF OXIDE FILMS ON SILICON STUDIED BY A GAS ETCHING
METHOD -U-
AUTHOR--(021)-TYAPKINA, V.V., MOGILEVTSEV, P.K.
COUNTRY OF INFO--USSR
SOURCE--IZV AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(2), 214-18
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, PHYSICS
TOPIC TAGS--SILICON, METAL OXIDATION, ELECTRON DIFFRACTION, METAL ETCHING,
OXIDE FILM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1996/0823
STEP NO--UR/0363/70/006/002/0214/0218
CIRC ACCESSION NO--AP0118003
UNCLASSIFIED

2/2 025
CIRC ACCESSION NO--AP0118003
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--16OCT70

ABSTRACT. SI SAMPLES OXIDIZED BY 2 TECHNIQUES WERE EXAMD. IN THE 1ST CASE, THE SI WAS OXIDIZED IN WATER VAPOR UNDER PRESSURE. IN THE 2ND CASE, THE OXIDE FILMS WERE PREPD. BY SUCCESSIVE OXIDN. OF THE SAMPLES IN DRY, MOIST, AND AGAIN DRY O. FILMS PREPD. BY THE LATTER METHOD WERE CALLED "3 LAYER" FILMS. THE DATA OBTAINED BY THE GAS ETCHING METHOD ARE PRESENTED FOR THE THICKNESS AND THE RELATIVE COMPACTNESS OF THE OXIDE FILMS. THE REACTION WAS CONTROLLED BY OBSERVING THE WT. CHANGE IN THE SAMPLE. THE GAS ETCHING WAS PERFORMED AT ROOM TEMP. AT A F OR HF PRESSURE OF 100 MM HG. THE STATE OF THE SURFACE OF THE SAMPLES WAS CONTROLLED BY ELECTRON DIFFRACTION AND METALLOGRAPHIC METHODS. THE ELECTRON DIFFRACTION PATTERNS OF OXIDIZED SI CONTAIN ONLY THE DIFFUSED HALOS CHARACTERISTIC OF AN AMORPHOUS STRUCTURE. AFTER THE REMOVAL OF THE OXIDE FILM BY ANHYD. HF, KIKUCHI LINES AND BANDS CHARACTERISTIC OF THE INITIAL FACE OF THE CRYSTAL WERE OBSD. ON ELECTRON DIFFRACTION PATTERNS. REPEATED REPRODUCTION OF THESE PATTERNS SHOWED THAT THE COMPLETENESS OF REMOVAL OF THE OXIDE AS A RESULT OF GAS ETCHING CAN BE CONTROLLED QUITE RELIABLY BY ELECTRON DIFFRACTION. THE D. OF THE AMORPHOUS SiO_2 SUB2 WAS TAKEN TO BE 2.2 G-CM PRIME^3 . THE INTERACTION REACTION BETWEEN THE OXIDE FILM AND ANHYD. HF WAS STUDIED. THE ETCHING RATE DOES NOT REMAIN CONST. DURING THE REACTION. THE INCREASE IN THE RATE AT THE EARLY ETCHING STAGE IS APPARENTLY AUTOCATALYTIC. THE MAIN MASS OF THE FILM ETCHES AWAY AT ALMOST A CONST. RATE. THE COMPACTNESS AND THE MICROSTRUCTURE OF THE FILMS OBTAINED WERE ALSO STUDIED.

FACILITY: INST. FIZ. KHIM.

MOSCOW, USSR.

UNCLASSIFIED

1/2 015 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--HISTOCHEMICAL APPLICATION OF A NEW METACHROMATIC DYE CATIONIC BLUE
2K -U-
AUTHOR--MOGILNAYA, G.M. M
COUNTRY OF INFO--USSR
SOURCE--ARKH. ANAT., GISTOL EMBRIOL. 1970, 58(2), 94-6.
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--HISTOCHEMISTRY, POLYSACCHARIDE, BIOLOGIC STAIN

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605015/F01 STEP NO--UR/9076/70/058/002/0094/0096
CIRC ACCESSION NO--AP0140630
UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--04DEC77
CIRC ACCESSION NO--AP0140630
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CATIONIC BLUE 2K WAS BEST FOR
HISTOCHEM. ANAL. OF ACID POLYSACCHARIDES. RESULTS ARE GIVEN FOR
APPLICATION OF THIS DYE IN ANAL. OF THE GASTRIC MUCOSA.
FACILITY: DEP. HISTOL., KUBAN REG. MED. INST., KRASNODAR, USSR.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--PRESSURE TEMPERATURE DIAGRAMS OF AQUEOUS CALCIUM AND LITHIUM
SOLUTIONS -U-
AUTHOR--(03)-KLIMENKO, A.P., MOGILNYI, V.I., KRYUKOV, V.A.
COUNTRY OF INFO--USSR
SOURCE--CHIM. IND., GENIE CHIM. 1970, 103(5), 591-3
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CALCIUM CHLORIDE, LITHIUM COMPOUND, PRESSURE EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3005/0945

STEP NO--FR/0000/70/103/005/0591/0593

CIRC ACCESSION NO--AP0133031

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0133031

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. VAPOR PRESSURES WERE DETO. FOR AQ. CACL SUB2 AND AQ. L1CL AS A FUNCTION OF TEMP. (210-300DEGREESK FOR AQ. CACL SUB2; AND 210-320DEGREESK FOR AQ. L1CL) AND SOLUTE CONCN. (0-60PERCENT). THE CALCD. WATER CONTENTS IN A GAS DRIED AT 250DEGREESK AND 25 KG-CM PRIME2 WITH PRECOOLED AQ. CACL SUB2 AND AQ. L1CL WERE 4 AND 2 PPM, RESP. A FLOW DIAGRAM FOR GAS DRYING FRACTIONATING SYSTEM WITH AQ. CHLORIDE SOLNS. IS GIVEN. FACILITY: GASENINST., KIEV, USSR.

UNCLASSIFIED

1/3 021
UNCLASSIFIED
PROCESSING DATE--20NOV70
TITLE--SCIENTIFIC ORGANIZATION OF LABOR IN PUBLIC HEALTH INSTITUTIONS,
THIRD CONFERENCE OF HEADS OF ORGANIZATIONAL METHODOLOGICAL SECTIONS OF
AUTHOR--MUGILYANTSEVA, V.I.
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, SOVETSKOYE ZDRAVOOKHRANENIYE, RUSSIAN, NO 1, 1970, PP
84-86
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, BEHAVIORAL AND SOCIAL
SCIENCES
TOPIC TAGS--INDUSTRIAL HYGIENE, PUBLIC HEALTH, LABOR ORGANIZATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FAME--3005/1437

STEP NO--UR/0753/70/000/001/0084/0086

CIRC ACCESSION NO--APC133333

UNCLASSIFIED

2/3 021

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0133383

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECTIVE USE OF THE LABOR OF MEDICAL WORKERS MAKES IT POSSIBLE TO IMPROVE MEDICAL ASSISTANCE FOR THE WORKERS. THE SOLUTION OF THIS IMPORTANT PROBLEM IS DEPENDENT ON THE SUCCESSFUL INTRODUCTION OF THE SCIENTIFIC ORGANIZATION LABOR. THE ORGANIZATIONAL AND METHODOLOGICAL SECTIONS OF THE INSTITUTES OF WORK HYGIENE AND OCCUPATIONAL DISEASES, IMPLEMENTING THE RESOLUTIONS OF THE ALL UNION CONFERENCE ON THE PLANNING AND CONDUCTION OF SCIENTIFIC RESEARCH IN THE ORGANIZATION OF SANITARY EPIDEMIOLOGICAL SERVICING OF THE POPULATION, HELD DURING THE PERIOD 10-12 NOVEMBER 1966, AND THE DECREE OF THE MINISTRY OF HEALTH USSR, NO 987, DATED 28 DECEMBER 1966, ENTITLED "ON IMPROVING WORK IN THE FIELD OF THE SCIENTIFIC ORGANIZATION OF LABOR OF WORKERS IN PUBLIC HEALTH INSTITUTIONS", ARE MAKING INVESTIGATIONS ON THE SCIENTIFIC ORGANIZATION OF LABOR IN SPECIALIZED PUBLIC HEALTH INSTITUTIONS. THE FIRST RESULTS OF THESE INVESTIGATIONS WERE GENERALIZED DURING THE PERIOD 6-8 MAY 1969 AT THE THIRD CONFERENCE OF HEADS OF ORGANIZATIONAL METHODOLOGICAL SECTIONS OF INSTITUTES OF WORK HYGIENE AND OCCUPATIONAL DISEASES DEVOTED TO THE SCIENTIFIC ORGANIZATION OF LABOR AT SANITATION EPIDEMIOLOGICAL STATIONS AND IN MEDICAL SANITARY UNITS. THE CONFERENCE WAS ATTENDED BY ABOUT 100 SCIENTIFIC SPECIALISTS, PRACTICING PHYSICIANS, WORKERS IN SCIENTIFIC ORGANIZATION OF LABOR SECTIONS AND SAFETY TECHNICIANS AT ENTERPRISES FROM 27 CITIES AND FIVE UNION REPUBLICS.

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UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0133383

ABSTRACT/EXTRACT--A. V. PAVLOV, HEAD OF THE MAIN SANITATION
EPIDEMIOLOGICAL ADMINISTRATION OF THE USSR HEALTH MINISTRY, IN WELCOMING
THE CONFEREES, EMPHASIZED THE TIMELINESS OF THE PROBLEMS INVOLVED IN THE
SCIENTIFIC ORGANIZATION OF LABOR AT SANITATION AND EPIDEMIOLOGICAL
STATIONS. HE STATED THAT THE MATERIALS FROM STUDY OF THE ORGANIZATION
OF LABOR AT THESE STATIONS, TAKING INTO ACCOUNT THEIR EXISTING
STRUCTURE, AFFORD THE POSSIBILITY FOR A MORE CORRECT AND RATIONAL
DISTRIBUTION AND USE OF PERSONNEL AND FOR INCREASING THE QUALITY OF
SANITARY SUPERVISION.

UNCLASSIFIED

USSR

UDC 612.118.221.2:616.986.7]-074

MOGIREVA, L. A., Kiev Scientific Research Institute of Epidemiology, Microbiology, and Parasitology

"Use of the Passive Hemagglutination Reaction and the Hemolysis Test to Detect Leptospirosis"

Kiev, Vrachebnoye Delo, No 9, 1971, pp 147-149

Abstract: The passive hemagglutination reaction and its hemolytic modification are highly sensitive and specific tests for diagnosing leptospirosis. The former confirmed the diagnosis in 108 of 110 sera obtained from persons diagnosed as having the disease from clinical and epidemiological data, while the hemolysis variant confirmed diagnosis in 44 of 47 sera tested. The passive hemagglutination reaction can detect leptospirosis antibodies as early as the third day of the disease. This reaction and the hemolysis test both reveal a simultaneous increase in the titers of agglutinins, hemagglutinins, and hemolysins in the second week, after which the hemagglutinin and hemolysin titers decrease while the agglutinin titers continue to be high.

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Forming

USSR

UDC 669.2.621.777

MOGUCHIY, L. N.

"The Mechanism of Forming and Failure of Complex System Elements During Extrusion"

Moscow, Tsvetnyye Metally, No 4, Apr 73, pp 67-70

Abstract: The results are presented of analytical and experimental investigations of the failure of elements of different form located in a soft medium during extrusion from a round channel. The data can be used for working out the technology for compacting composite materials with fiber hardeners.

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USSR

MOGUL'SKIY, A. A.

"Absolute Estimates for Moments of Certain Boundary Functionals"

Teoriya Veroyatnostey i yeye Primeneniya [The Theory of Probabilities and Its Applications], 1973, Vol 18, No 2, pp 350-357 (Translated from Referativnyy Zhurnal Kibernetika, No 10, 1973, Abstract No 10V88)

Translation: Suppose ξ_1, ξ_2, \dots is a sequence of independent, identically distributed random quantities, $M\xi_1 \geq 0$, and suppose ψ is the limiting value of the first passage through an infinitely remote barrier. This article produces the following estimates:

$$M\psi^s \leq A_1 \frac{1}{s+1} \frac{M|\xi_1|^{s+2}}{M\xi_1^2}$$

$s \geq 0$.

Author's view

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USSR

UDC 669.15'24'25-192:669.017.3

YEDNERAL, A. F., ZHUKOV, O. P., KABLUKOVSKAYA, M. A., MOGUTNOV, B. M., and PERKAS, M. D., Institute of Metal Science and Physics of Metals; Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin

"Investigation of the Ordering Process in Iron-Nickel-Cobalt Alloys with Martensite Structure"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 36, No 4, Oct 73, pp 727-734

Abstract: In the martensite of Fe-Ni-Co ternary alloys an exothermal process accompanied by increased strength and modulus of elasticity takes place at 300-500°C. The process depends on the formation of a short-range order. In the alloy with high Ni and Co contents, zones with a long-range order of the FeCo-type were disclosed by the electron-microscopy method. The maximum change in properties on isochronal heating for 1 hr is observed at 450-500°. The plastic deformation of specimens processed for maximum hardness leads to a loss in strength. A change of Co and Ni contents has an influence on hardening in the heating of Fe-Ni-Co alloys. In the Fe+15%Co and Fe+20%Co binary alloys hardening on heating was not observed. The increase in hardening of Fe-Ni-Mo

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USSR

YEDNERAL, A. F., et al., Fizika Metallov i Metallovedeniye, Vol 36, No 4, Oct 73, pp 727-734

alloys in aging and when introducing Co is explained by the formation of a short-range order of Fe-Co-type and the decreased solubility of Mo in the α -phase. The latter makes the principal contribution to hardening. Eight figures, two tables, 15 bibliographic references.

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MOBUT NOV, B.M.

A STUDY OF STRAIN AGING OF MARIENITE OF QUENCHING STEEL

Yu. S. Davydov and B. M. Mokhtinov, Institute of Metallurgy and the Physics of Metals of the Central Scientific Research Institute of Ferrous Metallurgy named L. P. Bardin, submitted to press 1 February 1972
papers 1219-1223

Strain aging of high-carbon quenched (hardened) steels, caused by plastic deformation (strain) of martensite in which the processes of migration of the carbon to the defects formed in the martensite transformation was completed, was studied by the microcalorimetric method.

One of the initial processes of the decay of martensite in the tempering of hardened steel lies in the transition of the atoms of carbon to the imperfections of its crystalline structure, which were formed in the process of the martensite transformation [1-6]. For the purpose of a further study of this process, in this work strain aging of martensite was investigated. The phenomenon indicated occurs when carbon not bonded with the imperfections of the crystal structure and "fresh" defects are contained in the martensite. The occurrence was fixed according to the variation of the mechanical properties of the steel and the amplitude dependence of internal friction [7, 8].

The basic method of the investigation was the microcalorimetric method, which records the processes of migration of carbon to the defects well according to the quantity of heat liberated [5]. The materials for the investigation were high-carbon nickel steel 90Ni14 (0.94% C, 14.4% Ni) and chrome steel 80Kh13 (0.78% C, 12.4% Cr), in the martensite of which, after completion of the processes of the transition of the atoms of carbon to the defects formed in the process of the martensite transformation, a considerable quantity of "free" carbon is contained. The heating of nickel steel before hardening was performed in a vacuum furnace at 1000°

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Mokhtinov, B.M. 1973
30 March 1973 - Novaya Zhizn
Mokhtinov, B.M. 1973
Dec 31, # 6, 1973